From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/GB2004/050027	18.11.2004	19.11.2003

International Patent Classification (IPC) or both national classification and IPC
B23K35/30, C22C5/06

Applicant
MIDDLESEX SILVER CO. LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a transiation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	10-20
	No:	Claims	1-9
Inventive step (IS)	Yes:	Claims	11-20
	No:	Claims	1-10
Industrial applicability (IA)	Yes:	Claims	1-20
	No:	Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: PATENT ABSTRACTS OF JAPAN vol. 1998, no. 06, 30 April 1998 (1998-04-30) & JP 10 029087 A (TANAKA KIKINZOKU KOGYO KK), 3 February 1998 (1998-02-03)
D2: PATENT ABSTRACTS OF JAPAN vol. 017, no. 191 (M-1396), 14 April 1993 (1993-04-14) & JP 04 339590 A (CITIZEN WATCH CO LTD), 26 November 1992 (1992-11-26)
D3: US-A-4 242 134 (D'SILVA, THOMAS L) 30 December 1980 (1980-12-30)
D4: EP-A-1 078 711 (BRAZETEC GMBH) 28 February 2001 (2001-02-28)
D5: EP-A-0 729 398 (JOHNS, PETER GAMON) 4 September 1996 (1996-09-04)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document):

A ternary Ag-Cu-Zn brazing alloy for platinum ornaments with a composition (weight %) [abstract]:

Ag: 50-60%
Cu: 15-25%
Zn: 15-25%
Ge: 3-7%

Besides, document D4 discloses a brazing solder for hardmetals with a composition [table 1, claim1]:
Ag: 45-75%,Cu:10-30%,Ga:1-20%,Zn:1-25%, Sn:0-6%, Si:0,1-3%,Ge:0,1-3%.

Furthermore, document D2 discloses a brazing filler metal on Ag-Cu-Zn basis containing Ag:15-90%,Cu:3-83%,Zn:0-8%,Sn:0-6% and Ge:2-10% [abstract,table 2]. The alloy is used for brazing gold and platinum alloys.

The subject-matter of claim 1 is therefore not new.

Finally, document D3 discloses a silver-copper-zinc based brazing alloy for stainless steel, containing 5-15%Ge, 8-18%Zn, 5-39%Cu, balance being Ag. Although the Ge content is slightly higher, this element is added for the same purpose as in the present application. The skilled person would furthermore adjust the Ge-content to obtain a desired colour tone and melting temperature without using an inventive step.

2. Dependent claims 2-10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, the reasons being as follows: [see documents D2,D4 and D5].

3. Notwithstanding the clarity objection under point VIII., the particular elemental combination of claim 11, which allows to obtain a brazing alloy with optimized melting point, silver colour match and flowability, is not disclosed or rendered obvious by any of the documents on file.

Therefore, the subject-matter of claim 11 is considered new and inventive according to Art. 33(2) and (3) PCT.

4.Claims 12 to 15 and 19 to 20 are dependent on claim 11 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VIII
Certain observations on the international application

1. The elemental composition of the alloy must be disclosed to 100% in the interests of clarity (Article 6 PCT). All mandatory and optional elements including their numerical ranges must be indicated in the **main claim**. Omission of elements and their ranges or partial disclosure allow the possibility of other elements in unspecified quantities may be included in the alloy which may in turn have unforeseen effect upon the alloy. It is therefore

essential that either the elemental ranges add up to 100% or that an element is given as balance.